DOCUMENT RESUME

ED 332 876 SE 052 128

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TITLE Videotaped Mathematics Instruction Used as a Resource in Compensating for Absence.
PUB DATE May 90
NOTE 56p.; Practicum report, Nova University.
PUB TYPE Dissertations/Theses - Practicum Papers (043)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Attendance; Audiovisual Aids; Audiovisual Instruction; *Educational Television; High Schools; Learning Strategies; *Mathematics Instruction; *Mathematics Materials; Remedial Instruction; Remedial Mathematics; Secondary School Mathematics; Substitute Teachers; *Teacher Attendance; Teacher Developed Materials; Teacher Effectiveness; Teaching Methods; Television Viewing; Video Equipment; *Videotape Recordings

ABSTRACT

Unavoidable absences of both students and teachers in college preparatory math classes adversely affected achievement and produced academic frustration in a moderately affluent urban high school. In order to reduce the frustration level and to promote continuity and meaningful activity on teacher absence days, videotaped reviews of material related to college entrance examinations were created by a regular classroom teacher for use by substitute teachers. In addition, chapter reviews of actual coursework were created for use by students recovering from absences of their own or as a means of additional self-review. A comparison of pre- and post-project surveys indicated a relief in the level of concern unavoidable absences created for students, teachers, and administrators. Plans to increase the scope of the project to other subject areas and other schools within the district are included. Appendices include samples of pre- and post-project questionnaires, and the tabulated results of the surveys in the subject school. (Author)

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MAY 1991

VIDEOTAPED MATHEMATICS INSTRUCTION USED AS A RESOURCE IN COMPENSATING FOR ABSENCE

by

Terry L. Huge

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A Practicum Report

Submitted to the Faculty of the Center for the Advancement of Education at Nova University in partial fulfillment of the requirements for the degree of Master of Science.

The abstract of this report may be placed in a national Database System for reference.

May/1990

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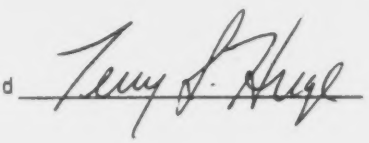
signed 

Abstract - Final Report

Videotaped Mathematics Instruction Used as a Resource in Compensating for Absence.
Huge, Terry L., 1990: Practicum Report, Nova University, The Center for the Advancement of Education.
Descriptors: Secondary Education/ Videotaped Instruction/ Mathematics Instruction/ Audiovisual Aides/ Attendance/ Student Attendance/ Teacher Attendance/ Access to Education/ Algebra/ Geometry/ Educational Technology/ Remedial Instruction/ Secondary School Mathematics/ Teacher Developed Materials/ Teacher Effectiveness/ Teaching Methods/ Television/ Videotape Recordings/

Unavoidable absences of both students and teachers in college preparatory math classes adversely affected achievement and produced academic frustration in a moderately affluent urban high school. In order to reduce the frustration level and to promote continuity and meaningful activity on teacher absence days, videotaped reviews of material related to college entrance examinations were created by a regular classroom teacher for use by substitute teachers. In addition, chapter reviews of actual coursework were created for use by students recovering from absences of their own or as a means of additional self-review. Tapes of this type were used as a media center resource. A comparison of pre and post project surveys indicated a relief in the level of concern unavoidable absence created for students, teachers and administrators. Plans to increase the scope of the project to other subject areas and other schools within the district are included. Appendices include samples of pre and post project questionnaires, and the tabulated results of the surveys in the subject school.

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Chapter I

BACKGROUND

School and Community Setting

The subject high school opened for the inaugural student body in the fall of 1987. Situated on 70 acres of land in the southern portion of a coastal county nationally ranked for growth, the facility was constructed at a price in excess of $12,000,000.

Designed for expansion, the campus will support 1,250 students with a planned additional wing and 350 additional students by 1996. Enrollment for 1989-90 fluctuated between a high of 1,150 and a low of 1,000. Enrollment was projected to be 1,300 in 1994. The student population was drawn from several area beach and resort communities.

The 1989-90 student body was seven percent Black, seven percent Hispanic, 85 percent Caucasian, with less than one percent belonging to other ethnic origins. Of the total, 56.4 percent lived with two parents, 20.15 percent lived with only their natural mother, 22 percent lived with a step-parent or guardian, and about one

percent met the requirements of self-responsibility. Runaways accounted for between one and two percent. Slightly more than 20 percent of the school's families had incomes below the poverty level. Approximately 12 percent of the school population dropped out in the school's first year, with 17 percent of those graduating continuing on to a four year college, and 52 percent to a junior college. When polled, the second senior class responded similarly with 70 percent expected to attend a college.

The school invoked considerable community financial and volunteer support, logging over 27,000 hours of volunteer aide. The community raised $50,000 to open the school with enough money for state-of-the-art equipment and supplies. The Athletic Booster organization presented the football program with $4,000, and a local civic organization donated $5,000 for the school's general fund. Approximately $3,242 was spent on each student in attendance: 60 percent of that was allotted for instruction, 3.5 percent on media, 14.6 percent on administration, 14.5 percent on plant operation, .09 percent on maintenance, and 6.5 percent on the pupils personally. The physical plant was completely paid for.

Absenteeism for the student population averaged approximately 11.5 percent. The faculty absentee rate fluctuated over a broader range, but approximated seven percent. Both figures were considered favorable compared to other schools in the geographic area. The student rate usually ranks first or second in the district. These figures, however, when viewed in the perspective of a shortage of substitute teachers certified in mathematics, took on added importance.

The report writer was a mathematics teacher assigned to two Algebra I classes, two Honors Geometry classes and sponsored the school's competitive math team. The report writer also taught one general math class and was assigned a duty period in which regular meetings of the math team were scheduled. Teachers in the subject school had a broad range of suggestive influence with regard to the functioning of the school and were supportive of, and supported by, an administration eager to be innovative as well as effective. Suggested solution strategies that were well founded were certain to be well received and given concerted effort.

Numerical data reported in this problem statement was obtained from the Southern Association Evaluation

Self-Study, 1988-1989; interviews with school adminstrators; and a pre-project set of questionnaires.

Identification of the problem necessitated consideration of the curriculum with which the report writer was involved. Mathematics is a unique field of study in the problems it presents to those so involved. Each day of study is another step of a ladder built on each preceding day. Absence from a single class often caused a "hole" in the understanding of a student which became wider and more encompassing with time. A review of a pre-project survey of students, teachers, substitutes, and administrators (a full tally of results may be found in appendix B) - along with many personal interviews - revealed the extent of the problem. Students (57 percent) found it difficult to make up assignments in college preparatory classes when they had been absent for the presentation of the material. Students interviewed (64 percent) felt test scores showed significant drops when preceded by absences.

Absences occur for many reasons. There are many studies of absenteeism in both business and education, and many strategies for its prevention. Incentive programs of privilege-rewards for attendance are in place in many school districts. The State of Florida

has placed driving-privilege restrictions dependent on school attendance in place as of the 1989-90 school year. Attendance is a nationally documented problem. Teachers (86 percent) and students (80 percent) felt that its effect on the study of mathematics was particularly acute.

Once the absence had occurred, teachers and students experienced frustration in coping with the difficulties that arose. Students (60 percent) expressed difficulty in assimilating unpresented material, and teachers (86 percent) expressed concerns about organizing for remedial material on a continual basis. Both students (80 percent) and teachers (86 percent) felt that mathematics was the subject most so affected, and both parties expressed a willingness to explore possible solutions, agreeing that the current situation needed to be improved.

In a similar vein, teachers of mathematics (57 percent) found it difficult to prepare meaningful exercises for use during their own absences due to conditions of dwindling substitute supply. The assistant principal in charge of substitutes for the target school related several instances where there were too few substitute teachers of any certification to meet

the day's demand. Specifically assigning substitutes proficient in math to all such math classes in need became an impossibility.

Teachers (71 percent), students (63 percent), administrators (100 percent), and substitutes (40 percent) expressed frustrations dealing with absences of regular teachers for which a proficient substitute was not found. Lessons became confused and muddled, reviews became uncertain, and confidence was eroded. Interest, therefore, waned and behavior problems - as well as the academic ones - arose. Teachers needed to then compensate for the missed day in concert with conducting the succeeding day. These first level problems led to secondary ones; absences due to discipline, frustration, and escapism. Dissatisfaction made it increasingly difficult to cope. Test scores fell. Failure rates rose.

In addition, the school administration was concurrently contemplating a change in daily schedule for the 1990-91 school year. Their proposal was to implement 100-minute-block scheduling of classes on alternate days. The plan reserved one day of the week for the traditional seven periods and first period remained a daily class. The other six classes, however,

alternated; even-numbered classes on Tuesday and Thursday, odd-numbered classes on Monday and Wednesday. One-third of the faculty opposed the plan according to an administrative survey. Many of the students were confused and uncertain of the plan's effect on their education. The feeling of many, voiced in public debate, was that there would be an exacerbation of the effect of absenteeism of both teacher and student.

This project then sought to solve the problems stemming from unavoidable absenteeism for the students, teachers and substitutes in the college preparatory classes of the subject school.

The project dealt with the frustration encountered by students and faculty stemming from unavoidable absences. Both parties agreed that the current situation had a deleterious effect on learning though there was no way to isolate this variable and its direct contribution to falling grades. In addition, other variables planned to be introduced make simple grade improvement or test score data uncertain.

Evidence of the existence and extent of the dissatisfaction was indicated by an investigative survey

designed to explore the perceived situation. Evidence of the amelioration of the problem was indicated by a similar survey conducted at the end of the trial period. Over four months, conditions reported to be negative in the pre-survey by students, teachers, and administrators were expected to improve to less than 33 percent negative responses as measured by the post-survey.

Areas where evaluation took place included difficulty with homework, difficulty with perceived comprehension of material, difficulty with classroom management, difficulty with substitute management, and perceptions of educational value as outlined in the problem statement. Specific questions with regard to these matters constituted the pre and post surveys included in the appendices of this document. Pre and post questions were also included with regard to execution of the plan and to opinions about its continuation and/or expansion. A 67 percent favorable response in those areas were to be deemed successful. Additional space for individual comments were afforded in an effort to elicit ideas and perceptions for continuation and improvement. Those responding with additional comments were hoped to be 67 percent of a positive nature.

Chapter II

RESEARCH AND SOLUTION STATEGY

Combating absenteeism may be accomplished on several different levels. Studies conducted in Ohio cite evidence of the relationship between absenteeism, suspension rates, corporal punishment rates, and achievement. Zafirau (1982) hypothesizes improved academic performance may be not only a result of improved attendance but a prerequisite.

There are many areas of business that have conducted extensive research in absentee prevention. Schools, as well, have approached the problem by incentive. Many schools have adopted special privilege programs for improved attendance for students as well as programs for improved teacher attendance. The author of this proposal once received a savings bond donated by private enterprise as a part of an incentive program of perfect attendance for teachers. Most schools have established programs of discouragement. Truancy laws

and policies have long been the norm for students. The paycheck, beyond a given range of sickleave, serves the same purpose for staff.

Beyond all these instruments for prevention, it was clear that some absence was to be expected as unavoidable and, therefore, must be compensated for. Suprisingly, there was little research on strategies to offset the effects of absence once it occurs. Twelve years of professional experience by the researcher shows some insight. Personal or group review conducted by the regular teacher after school has been a long-established practice and has met with some, if mixed, success. Peer tutoring has been established informally among classmates and, in controlled environments, has been successful. These two solution strategies are usually short term and inconsistent; though, where they can be maintained, they are very powerful.

The target school currently employs both of these strategies in the math department. Every math teacher spends a minimum of two days per week in after-school instruction. Problems with student transportation, jobs, and extra-curricular activities, make this solution less than all-encompassing. The math team conducts tutoring sessions daily during the sixth

period. This has been extremely valuable, but in a limited way, as students needing help may not always be able to free that period for tutoring. In some instances a student in need of remediation (by reason of absence or other circumstance) has been scheduled into the math team period as a study hall. This has been effective for these isolated cases. The need for a comprehensive plan as noted by the current state of dissatisfaction demands an additional strategy.

Accompanying the student-absence problem was the equivalent teacher-absence problem. Once the absence occurs, the time-honored approach was the substitute teacher's using lesson plans provided by the regular teacher for short term absences. This system has documented drawbacks. The writer's experience over the last three years at the subject school reveals that no substitute has been able to handle class questions over regular subject matter in upper division classes. Review material was normally used, thereby reducing the questions that cannot be answered by someone in the class, but limitations still exist as to what may be covered. Discussion was not led nor concerted; rather the experience was fragmented in its effectiveness, and the student perception was one of discontinuity and

confusion.

If discontinuity and confusion are purported to be the problems, then keeping the regular teacher in the classroom on absence days appears to be the contradictory solution. Videotape comes to mind as the technological answer. Selecting its proper usage becomes the next step in the analysis. A search of a national data base shows 1,422 entries related to videotape recordings. When cross-referenced with attendance, there were none. Apparently, there has been little thought devoted to the use of this technology in the war on absenteeism specifically.

Videotaping entire courses has found widespread use on the college and continuing education level. Telecourses abound on public television and open campus formats. Weber (1984, p 3) reports,

> Another advantage telecourses offer is that many college libraries or Learning Resource Centers have copies of the programs for student use if the student misses a particular program or simply wants more review time.

The implication here is that the application may well be suited to the high school absentee.

Another application of video technology that has received attention is the pooling of resources, usually by small rural communities, to keep curricula broad and

diverse. Barker (1985) describes interactive television, satellite systems, and computer networks, as well as videotaping as a means to combat low student enrollments and lack of adequate funding for certified personnel. Not specifically designed for absenteeism, the application still affords itself by extrapolation.

In addition, Kested (1985, p 316) specifically states, "... The taped classes give absent students an opportunity to view lessons ..." Though the reference pertains to live lessons being taught at one high school and shared by three others, the idea may be applied in the instance of the subject school. Taping of entire courses may be beyond the target high school's capabilities, the idea is far too encompassing to be practical. The principal of the subject school expresses doubts as to the availability of equipment and personel, as well as time in the normal school day, to undertake such a venture. Editing and production time would equal or exceed taping time and would render the project unmanagable for the typical high school.

Live television, taped unedited and kept for designated periods and then recycled, has been successfully employed in some districts in Minnesota and New York, Kitchen (1988). Forecasted difficulties in

the subject setting include quality control, absolutely dedicated equipment and personnel time, and reluctance of teachers and students to be taped live and unedited. Organization and discipline on a high level of consistency for an extended period of time are discouraging factors. Not every regular teacher would consent to being taped in any form; and, indeed, some students and their parents have expressed reluctance to being on tape over extended periods.

Solution strategies for teacher absence include an interesting view proposed by Deutchman (1983, p 397) who suggests that "... substitute teachers be eliminated and that schools establish a pool of well-qualified, talented 'guest teachers' to replace them." Among the pool of qualified speakers could be the regular teacher on tape.

Should taped teaching be used at all? Is video a viable medium of education? This question is answered by Gallagher (1988, p 29) when he states in his preamble that,

> With the advent of the videocassette recorder (VCR), the future of film in the teaching of English is upon us - and a key pedagogical task of the next decade may well be discovering the most efficacious ways of employing this technology.

In English or in mathematics, the VCR is viable if

not unavoidable. Chen (1989, p. 60) cites the U.S. Department of Education,

> Contrary to popular assertions, children are cognitively active during television viewing and attempt to form a coherent, connected understanding of television programs.

Chen continues to describe "actively viewed video" as a preferred medium of student-teacher-curriculum interaction.

The parameters for the solution in the subject situation begin to take shape. A regular teacher from the subject school must be taped live with a select, though not elite, group of students for review of certain generic topics that may be used at varying times of the year as absence-lesson plans. The principal of the subject school suggests that two areas which fit the proposal and are of specific concern in the mind of the administration are the Scholastic Achievement Test (S.A.T.) and the State Student Assessment Test (S.S.A.T.). Further consideration suggests that six hours of geometry related S.A.T. review and six hours of algebra related S.A.T. review be taped. This time parameter was established as a minimum yet managable goal in light of time and equipment factors. Taped largely unedited, this will use twelve class periods and four tapes.

In addition, six chapter reviews are to be filmed. Chapters one through three in both algebra and geometry. These are to be available to students who are absent during the first nine weeks of the year, to be expanded if the program is successful. This taping would take another six class periods, and require two tapes. The total first stage requirements are 18 class periods for taping and six tapes. This would fill the requirements of the problem statement for a time period of nine weeks regarding student absences and would cover short term teacher absences for the entire year for teachers of Algebra I and Geometry - and, as a by-product, Liberal Arts math as well.

If the solution strategy proves successful the administration is very much interested in expanding to the general-math track courses in the form of S.S.A.T. reviews. Indeed, it may be possible to use this approach in a number of subject areas. This project has already attracted the interest of the English department of another area high school with which the author is associated.

Chapter III

METHODOLOGY

The taping occurred in the spring of the year, with established students in the Math Team Class. These students participated in the reviews for their own benefit as well as providing the feedback necessary for effective teaching. The questions they asked hopefully reflected the questions encountered by viewers of the tapes, and their responses to the probing questions of the teacher hopefully mirrored the responses in the minds of the viewers as the taped learning environment became the viewers' learning environment. The effect was believed, therefore, to be preferrable to "canned" performances - just another non-participatory show.

There were reminders at the beginning of every segment that the viewers were expected to do the problems along with the television class. There were supplemental problem sheets accompanying each segment to be used as follow-up assignments. Teachers who used

these lessons as plans in their absence only needed to relate to their students that the instructions of the television instructor reflect the wishes of the regular teacher.

Resources

The production crew consisted of those students in the sixth-period television class deemed necessary under the direction of their class instructor. The entire first stage taping required six standard video cassette tapes and a crew of one with a single camera each day, sixth period for 21 school days. No instructional or teleproduction aides beyond what would be present in a regular class were needed as the result was intended to be a regular class.

The implementation of the program was in the fall of the succeeding year. Algebra or geometry students who were absent during the first nine weeks of the school year had the opportunity of checking-out the the taped reviews of the first three chapters of their subject. These three chapters were contained in a single tape with counter numbers referencing the location of each chapter. These tapes were viewed in the library at the convenience of the student.

Provisions for use of the tapes were made as with any other similar reference material in the library. As demand reflected the need, copies of certain of the tapes were made. Teachers of Algebra I or Geometry made known to their students the availability of these tapes.

Teachers who were absent in the fall and who wished to make use of the S.A.T. review tapes for viewing by classes under the supervision of substitutes indicated this on their emergency absence plans. The assistant principal for curriculum directed the substitute to the media center or made arrangements for the video tapes and recorder to be in the appropriate rooms. The mathematics department chairman was also used to aide in the mechanics of the plan.

Monitoring

All staff mentioned above were instructed in the procedures described above in a pre-implementation meeting during pre-school in the fall. The principal had agreed to these plans as a preliminary arrangement with adjustments or streamlining of the procedure to be worked out as needed. During monthly department meetings, the math department discussed the progress of the plan and suggested changes. During monthly steering

committee meetings, those staff involved or their represetatives discussed the progress of the plan and suggested changes. Changes in the execution of the plan that could be carried out with informal meetings throughout the course of the project were handled by those informal means.

Additions to the tape inventory that were suggested - chapters four through six for Algebra I and Geometry - began taping during the second nine weeks of the implementation. The additional tapes (one for each of the two courses) were ready for use immediately upon being taped. The project was complete at the end of the second nine week grading period.

Evaluation

Evaluation data was collected by dissemination and analysis of pre and post project questionaires. There were surveys focused on each of the affected groups: students, teachers, administrators, and substitutes. The questions included in the surveys will to establish need, explore perceptions of possible solutions, rate the executional sucess, rate the educational success, and explore changes to be considered in the future. If successful, the administration had already extended

approval for continuation and expansion beyond the scope of this proposal.

A complete selection of the questionnaires are included in this document under appendix A. A question-by-question analysis of each questionnaire follows:

STUDENT PRE-PROJECT QUESTIONNAIRE

1. "Do you see making up for days that you are absent as a problem that needs to be addressed?"

The writer seeks to establish the perceived problem in the mind of the researcher as a real problem in the mind of the student. A 67 percent positive response will establish the existence of the problem in the perception of the student.

2. "Do you have difficulty making up missed assignments?"

The researcher seeks to establish whether the students have actual, tangible, problems following an absence.

3. "Is it easy for you to make up for the class instruction that you miss?"

The researcher seeks to establish whether a student can recover the learning opportunity with the resources currently available.

4. "In which subject do you have the most difficulty recovering from an absence?"

The researcher seeks to determine whether the problem exists outside of the discipline of mathematics and to what degree. This question departs from the 67 percent rule, but analysis should prove of practical use.

5. "Do you think it would be beneficial to you to have a videotaped review of each chapter of your math class available in the library?"

The researcher seeks to establish the receptiveness of the students to the proposed project and perhaps gain the students' insight as to its likelihood of success.

6. "Do you see making up for the days that your math teacher is absent as a problem that needs to be addressed?"

The researcher seeks to establish the problem in the mind of the student.

7. "During the last five years, on the average, how useful to you is the planned activity you have experienced on days when your math teacher is absent?"

The researcher seeks to specify the student's perception of the value of what was planned as opposed to other factor's such as execution.

8. "Do you think it would be beneficial to you to have videotaped S.A.T. reviews on those teacher-absence days?"

The researcher seeks to establish the receptiveness of the students to the proposed project and perhaps gain the students' insight as to its liklihood for success.

9. "Would these videotaped reviews be more or less effective if they were created by a teacher from your own school as opposed to a commercial tape?"

The researcher seeks to establish insight into the value of locally controlled, locally specified, and personally familiar instruction, over what might be merely more sophisticated production techniques - Does content supercede execution?

10. "Please add any comments you think would be relevant."

The researcher seeks to provide opportunity for insight beyond the researcher's own. The 67 percent rule would not apply to this question, but analysis of responses should prove of practical use.

The teacher and administrative pre-project questionnaires and rationale closely parallel the student questionnaire.

SUBSTITUTE TEACHER PRE-PROJECT QUESTIONNAIRE

1. "Do you have teaching certification for Algebra I or higher?"

The researcher seeks to establish the possibility of an instructional dilemma.

2. "Do you have engineering, science, business or other training that enables you to be proficient in Algebra I or higher level mathematics?"

The researcher seeks to establish the possibilty of

an instructional dilemma.

3. "Have you ever substituted in an Algebra I or higher level math class?"

The researcher seeks to establish the existence of an instructional dilemma.

These questions depart from the 67 percent rule in that even one instance of negative responses to both of the first two questions followed by a positive response to the third question would lead to implications of educational dilemma. The remaining questions and rationale closely parallel those in the preceding questionnaires.

STUDENT POST-PROJECT QUESTIONNAIRE

1. "Have you been absent during the last nine week grading period?"

The researcher seeks to establish candidacy for the project.

2. "Have you viewed any of the videotaped chapter

reviews?

The researcher seeks to establish whether the project was utlized by those for whom it was intended and perhaps by those wishing extra review.

3. "Were they helpful?"

The researcher seeks to establish the success of the project.

4. "Has your math teacher been absent during the last nine week grading period?"

The researcher seeks to establish candidacy for the project.

5. "Have you viewed any of the videotaped S.A.T. reviews?

The researcher seeks to establish whether the project was utilized by those for whom it was intended and perhaps by those wishing extra review.

6. " Have you taken the S.A.T. ?"

The researcher seeks to establish weighted credibility for the responses to other questions for those who respond in the affirmative here.

7. "Do you think the videotaped S.A.T. reviews, in general, are a more valuable use of those days when the teacher is absent than other planned activities you have experienced?"

The researcher seeks to establish the success of the project.

8. "Do you think a commercially produced tape would be more beneficial than those produced at this school?"

The researcher seeks to separate failings in the concept from failings in the execution, and to establish the value of taped regular instruction over "canned" programs.

9. "Would you like to see this type of program in other subject areas?"

The researcher seeks to establish the success of the project.

10. "Please add any comments you think would be relevant."

The researcher seeks additional insight for use in mid-course corrections, final project-evaluation, or

future expansion.

TEACHER POST-PROJECT QUESTIONNAIRE

1. "Have you experienced any positive feedback from students who have been absent and who have viewed the videotaped reviews?"

The researcher seeks to establish the success of the project. Teacher responses to this question will be considered heavily in the overall review of the program.

2. "Have you noticed any improvement in the process of compensating for student absences?"

The researcher seeks to establish the success of the project. Responses here will be weighted heavily.

3. "Do you believe the videotapes were helpful?"

A positive response here following a negative response on the previous two questions will aid the researcher in determining whether the project may have failed in its objective but may yet have merit worthy of further exploration.

The remaining questions here and in the administrative and substitute teacher questionnaires closely parallel those discussed above in purpose and rationale.

Chapter IV

RESULTS

Evaluation of project success was done by an analysis and comparison of data collected from a pre-project and post-project survey of students, teachers, administrators, and substitutes. Although the project ran for two nine-week grading periods, the post-evaluation was given after the first and the second nine weeks to establish what mid-course corrections were necessary as well as to make a final evaluation. As many of the questions as possible were worded in such a way so as to elicit a positive or negative response. A favorable response rate of 67 percent was considered in the overall affirmative or, in the case of the project evaluation questions, successful. Majorities of smaller proportion were considered suspect affirmations, and failure to obtain a majority as an overall vote in the negative. This two-thirds majority rate has been well established with regard to Presidential veto overrides

and Constitutional Ammendments as to make it the choice for conclusions of success or failure for this project. Other questions were designed to elicit thoughtful suggestions beyond what may have been predicted.

Analysis of the results of the mid test as shown in table two showed that, while a majority of the students (57%) were absent at least one day during the preceding grading period, comparatively few (22%) took advantage of the existance of the chapter-review tapes. When asked informally as a group as to why the responses most often voiced included: "No time," "We didn't know how to go about it," "We were not confused that much", "You caught us up in class." Mid-term correction in this area was to post instructions as to how to go about viewing the chapter review tapes.

Question three indicated that only 18% felt that the chapter review was helpful, but when this figure compared to the 22% who viewed the tape converts to 88% of those who viewed the tape found it helpful. There was no mid-course correction necessary in this regard.

Questions four and five established that the remainder of the questionaire would be more statistically sound in that more than 90% of those

responding, in fact, participated in the program due to the absense of their teacher. The author and two other of the math department found occasion to implement the S.A.T. reviews. Two Geometry Honors classes participated along with one Trigonometry class and one class of Algebra II Honors. A majority (53%) had already taken the S.A.T. or P.S.A.T. and their responses are considered to be more educated than if their experience with those tests had been lower. Their favorable reponses to Question eight (85%) establishes the success of this part of the project.

A very low percentage (26%) felt that a commercial tape would be of more use. Write in comments included: "It's better to see your own teacher," "We're used to his style", "Commercial tapes would be slicker, but you wouldn't learn as much. It would be like a movie."

Nearly two-thirds (62%) of the students surveyed believed this program would be useful in other subject areas. This figure was lower than expected, but statistically close enough warrent further exploration.

Question ten indicates that almost half of those surveyed wrote in additional positive comments, including: "Good job," "Great idea!" and others which were equally gratifying though not illuminating. More

productive were the negative comments: "You can't ask questions," "The camera work is lousey," and "Too fast!" Mid-term corrections in these areas were forthcoming naturally as we became more experienced with the taping process. We found no solution to the problem of insufficient interaction between the student and the tape, except to ellicit more questions from the students who did the taping, as a means of mirroring what was transpiring in the minds of the subject students.

Those teachers and substitutes who participated in the project were generally positive in their responses to all of the questions. Administrators who were familiar with the project were positive; those who were unfamiliar indicated no response.

After implementing the few corrections found to be necessary, the second grading period proceded smoothly. Regretably, the author was the only staff member inclined to make use of the tapes during that time, which is in itself revealing. After the initial exposure and despite the positive responses, the pre-recorded tapes were not used though there was occasion. The author perceived reluctance in other teachers to use tapes they had not made. Some interest was expressed in making tapes of their own, however, which was the

implicit intent of the project. This developement, though seemingly negative, actually parallels the survey responses regarding outside enterprises making tapes and the low desirability of those tapes compared to that of the regular teacher.

The Post-Project Survey showed an even higher (90%) favorable response from students in the critical question seven, though responses in questions two, nine, and ten were suprisingly low. The author attributes this to excessive surveying and boredom with the project on the part of the students and to the fact that this final survey was directed solely to the Geometry Honors students, many of whom (81%) had not taken the S.A.T. The responses of the teachers, administrators, and substitutes remained overwhelmingly positive.

Chapter V

RECOMMENDATIONS

From the beginning, the administration was already solidly a part of the proposed plan. Cooperation from staff, equipment, videotape and other supplies, and much advice were all necessary and cheerfully provided by an adminstration eager to be a part of innovations in education. The administration's own project of block scheduling for the subject school year faced many questions as to its viability. One such area was absenteeism of both teachers and students, greatly magnified by 100-minute classes twice weekly. This practicum proposal spoke directly to that need; hence, there was and is great interest on the part of the subject school administration and in other sectors as well.

As expected, the results of the project have prompted the principal to encourage a majority of the subject school to be incorporated into the process. As

the subject school has already been a proven breeding ground for new ideas - such as weekly posting of grades, the 100-minute-block scheduling, and others which have sparked interest throughout the district - it is highly probable that this project will flourish throughout the area as it was successful here. At the very least, the project will be offered to inservice programs regularly held for teachers of mathematics in the subject county. The researcher has previously been a presenter at a State Conference for Secondary Education, which might conceivably show interest in a project possessed with such potential.

As established, the project falls well within the scope of capabilities of many high schools and speaks to growing needs in finding qualified substitute teachers and in meeting student needs in coping with absence. The aformentioned failures and shortcomings in the realization of project goals might also prove enlightening through evaluation and analysis. Results of this type will also cheerfully be shared with all who care to listen.

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Appendices

Appendix A

Sample Pre and Post Practicum Questionnaires

This questionnaire is part of a master's degree project concerned with the effect of absences on education. Your answers will help the researcher to identify existing problems and arrive at possible solutions.

STUDENT QUESTIONNAIRE

1. Do you see making up for days that you are absent as a problem that needs to be addressed? _____

2. Do you have difficulty making up missed assignments? _____

3. Is it easy for you to make up for the class instruction that you miss? _____

4. In which subject do you have the most difficulty recovering from an absence? _____

_____

5. Do you think it would be beneficial to you to have a videotaped review of each chapter of your math class available in the library? _____

6. Do you see making up for days that your math teacher is absent as a problem that needs to be addressed? _____

7. During the last five years, on the average, how useful to you is the planned activity you have experienced on days when your math teacher is absent?

_____

8. Do you think it would be beneficial to you to have videotaped S.A.T. reviews on those teacher absence days? _____

9. Would these videotaped reviews be more or less effective if they were created by a teacher from your own school as opposed to a commercial tape? _____

10. Please add any comments you think would be relevant - use the back of the page.

This questionnaire is part of a master's degree project concerned with the effect of absences on education. Your answers will help the researcher to identify existing problems and arrive at possible solutions.

TEACHER QUESTIONNAIRE

1. Do you see making up for days that students are absent as a problem that needs to be addressed? __

2. Do absent students have difficulty making up missed assignments?_____

3. Is it easy for them to make up for the class instruction that they miss?_____

4. In which subject do you suspect students have the most difficulty recovering from an absence?_____
_____

5. Do you think it would be beneficial to you to have a videotaped review of each chapter for each math class available in the library?_____

6. Do you see planning for or making up for days that you, the math teacher, are absent as a problem that needs to be addressed? _____

7. During the last five years, on the average, how useful do you feel is the planned activity your students have experienced on days when you have been absent?
_____

8. Do you think it would be beneficial to you to have videotaped S.A.T. reviews on those teacher absence days? _____

9. Would these videotaped reviews be more or less effective if they were created by you or a teacher from your own school as opposed to a commercial tape? _____

10. Please add any comments you think would be relevant - use the back of the page.

This questionnaire is part of a master's degree project concerned with the effect of absences on education. Your answers will help the researcher to identify existing problems and arrive at possible solutions.

ADMINISTRATIVE QUESTIONNAIRE

1. Do you see making up for days that students are absent as a problem that needs to be addressed? __

2. Do absent students have difficulty making up missed assignments?_____

3. Is it easy for them to make up for the class instruction that they miss?_____

4. In which subject do you suspect students have the most difficulty recovering from an absence?_____
_____

5. Do you think it would be beneficial to students to have a videotaped review of each chapter for each math class available in the library?_____

6. Do you see finding qualified subs for absent math teachers or making up for those absent days as a problem that needs to be addressed? _____

7. During the last five years, on the average, how useful do you feel is the planned activity your students have experienced on days when the math teacher is absent? _____

8. Do you think it would be beneficial to students to have videotaped S.A.T. reviews on those teacher absence days? _____

9. Would these videotaped reviews be more or less effective if they were created by a teacher from your own school as opposed to a commercial tape? _____

10. Please add any comments you think would be relevant - use the back of the page.

This questionnaire is part of a master's degree project concerned with the effect of absences on education. Your answers will help the researcher to identify existing problems and arrive at possible solutions.

SUBSTITUTE TEACHER QUESTIONNAIRE

1. Do you have teaching certification for Algebra I or higher? _____

2. Do you have engineering, science, business or other training that enables you to be proficient in Algebra I or higher level mathematics? _____

3. Have you ever substituted in an Algebra I or higher level math class? _____

4. On the average, was such an experience adequately productive for the students? _____

5. Would it be beneficial to the students to view an active participation videotaped review during those days when their regular math teacher is absent? _____

6. Would these videotaped reviews be more or less effective if they were created by the regular teaching staff as opposed to a commercial tape? _____

7. Please add any comments you think would be relevant - use the back of the page.

(Please do not fill out this form more than once)

This questionnaire is part of a master's degree project concerned with the effect of absences on education. Your answers will help the researcher to determine the degree of success achieved by the videotape math instruction project.

STUDENT QUESTIONNAIRE

1. Have you been absent during the last nine week grading period? _____

2. Have you viewed any of the videotaped chapter reviews? _____

3. Were they helpful? _____

4. Has your math teacher been absent during the last nine week grading period? _____

5. Have you viewed any of the videotaped S.A.T. reviews? _____

6. Have you taken the S.A.T. ?_____

7. Do you think the videotaped S.A.T. reviews, in general, are a more valuable use of those days when the teacher is absent than other planned activities you have experienced? _____

8. Do you think a commercially produced tape would be more beneficial than those produced at this school? _
_____

9. Would you like to see this type of program in other subject areas? _____

10. Please add any comments you think would be relevant - use the back of the page.

This questionnaire is part of a master's degree project concerned with the effect of absences on education. Your answers will help the researcher to determine the degree of success achieved by the videotape math instruction project.

TEACHER QUESTIONNAIRE

1. Have you experienced any positive feedback from students who have been absent and who have viewed the videotaped chapter reviews? _____

2. Have you noticed any improvement in the process of compensating for student absenses? _____

3. Do you believe the videotapes were helpful? ____

4. Have you, as a math teacher been absent during the last nine week grading period? _____

5. Have any of your classes viewed any videotaped S.A.T. reviews? _____

6. Have they been helpful? _____

7. Do you think the videotaped S.A.T. reviews, in general, are a more valuable use of those days when you are absent than other planned activities you have used?

_____

8. Do you think a commercially produced tape would be more beneficial than those produced at this school? _

_____

9. Would you like to see this type of program continued? _____

10. Please add any comments you think would be relevant - use the back of the page.

This questionnaire is part of a master's degree project concerned with the effect of absences on education. Your answers will help the researcher to determine the degree of success achieved by the videotape math instruction project.

ADMINISTRATIVE QUESTIONNAIRE

1. Have you experienced any positive feedback from students who have been absent and who have viewed the videotaped chapter reviews? _____

2. Have you noticed any improvement in the process of compensating for student absenses? _____

3. Do you believe the videotapes were helpful? ____

4. Have you, as an administrator, found the existance of the S.A.T. review tapes helpful in compensating for the absence of regular math teachers?

_____

5. Have you, yourself, viewed any of the videotaped S.A.T. reviews? _____

6. Do you believe they are helpful to the classes who view them? _____

7. Do you think the videotaped S.A.T. reviews, in general, are a more valuable use of those days when teachers are absent than other planned activities you have seen? _____

8. Do you think a commercially produced tape would be more beneficial than those produced at this school? _

_____

9. Would you like to see this type of program continued or expanded? _____

10. Please add any comments you think would be relevant - use the back of the page.

This questionnaire is part of a master's degree project concerned with the effect of absences on education. Your answers will help the researcher to determine the degree of success achieved by the videotape math instruction project.

SUBSTITUTE TEACHER QUESTIONNAIRE

1. Have you, as an substitute teacher, found the existence of the S.A.T. review tapes helpful in compensating for the absence of regular math teachers?

_____

2. Have you, yourself, viewed any of the videotaped S.A.T. reviews? _____

3. Do you believe they are helpful to the classes who view them? _____

4. Do you think the videotaped S.A.T. reviews, in general, are a more valuable use of those days when teachers are absent than other planned activities you have seen? _____

5. Do you think a commercially produced tape would be more beneficial than those produced at this school? _

_____

6. Would you like to see this type of program continued or expanded? _____

7. Please add any comments you think would be relevant - use the back of the page.

Appendix B

Project Questionnaire Results

Table 1

A Compilation of Results From A Pre-Project Survey of Students, Teachers, Administrators, and Substitutes

	276 Students			7 Teachers			5 Administrators		
	pos%	neg%	un%	pos%	neg%	un%	pos%	neg%	un%
Ques. 1	54	45	01	86	14	00	80	20	00
Ques. 2	57	41	02	86	14	00	80	20	00
Ques. 3	31	60	09	00	100	00	20	80	00
Ques. 4	80	15	05	86	14	00	40	40	20
Ques. 5	80	17	03	100	00	00	100	00	00
Ques. 6	36	62	02	71	29	00	100	00	00
Ques. 7	27	63	10	29	57	14	20	40	40
Ques. 8	85	10	05	86	14	00	60	00	40
Ques. 9	82	11	07	86	00	14	60	00	40
Ques. 10	12	02	83	14	00	86	40	00	60

	5 Substitutes		
	pos%	neg%	un%
Ques. 1	00	100	00
Ques. 2	20	80	00
Ques. 3	100	00	00
Ques. 4	40	40	20
Ques. 5	60	40	00
Ques. 6	80	00	20
Ques. 7	20	00	80

Table 2

A Compilation of Results From A Mid-Project Survey of Students, Teachers, Administrators, and Substitutes

	129 Students			3 Teachers			5 Administrators		
	pos%	neg%	un%	pos%	neg%	un%	pos%	neg%	un%
Ques. 1	57	43	00	66	33	00	40	60	00
Ques. 2	22	77	01	66	33	00	40	00	60
Ques. 3	18	02	78	66	00	33	40	00	60
Ques. 4	94	06	00	66	33	00	40	00	60
Ques. 5	92	06	02	100	00	00	60	40	00
Ques. 6	53	41	06	66	00	33	40	20	40
Ques. 7	85	12	03	100	00	00	60	20	20
Ques. 8	26	62	12	00	100	00	60	00	40
Ques. 9	62	35	03	100	00	00	80	00	20
Ques. 10	47	12	41	33	00	66	40	00	60

	2 Substitutes		
	pos%	neg%	un%
Ques. 1	100	00	00
Ques. 2	100	00	00
Ques. 3	100	00	00
Ques. 4	100	00	00
Ques. 5	50	00	50
Ques. 6	100	00	00
Ques. 7	100	00	00

Table 3

A Compilation of Results From A Post-Project Survey of Students, Teachers, Administrators, and Substitutes

	66 Students			1 Teachers			2 Administrators		
	pos%	neg%	un%	pos%	neg%	un%	pos%	neg%	un%
Ques. 1	61	37	02	100	00	00	50	50	00
Ques. 2	37	56	07	100	00	00	50	50	00
Ques. 3	35	02	63	100	00	00	50	00	50
Ques. 4	94	04	04	100	00	00	50	00	50
Ques. 5	90	06	04	100	00	00	50	00	50
Ques. 6	19	79	02	100	00	00	50	00	50
Ques. 7	90	06	04	100	00	00	100	00	00
Ques. 8	18	82	00	00	100	00	00	50	50
Ques. 9	52	39	09	100	00	00	100	00	00
Ques. 10	18	12	70	00	00	00	100	00	00

	1 Substitutes		
	pos%	neg%	un%
Ques. 1	100	00	00
Ques. 2	100	00	00
Ques. 3	100	00	00
Ques. 4	100	00	00
Ques. 5	00	00	100
Ques. 6	100	00	00
Ques. 7	100	00	00